

EPA REGION 9 ADMINISTRATOR VISITS DOH ENVIRONMENTAL PROGRAMS



On April 9, 2002, Wayne Nastri (new Region 9 EPA Administrator) and several of his senior staff met with the staff of Hawaii's environmental programs. Mr. Nastri gave his goals and objectives for Region 9. Of primary focus, Mr. Nastri mentioned communication to ensure that we are able to communicate with others (as well as for the development of partnerships and innovation), and reason (activities should be done with a purpose or end-product). Mr. Nastri also mentioned that enforcement will not decrease, program funding should increase, and programs should be innovative in its implementation of program activities. His goal at the end of a project is to be able to state how the environment has benefitted from the activity, i.e., is air quality better?, is water quality better?, etc.

BACKGROUND OF MR. WAYNE NASTRI, EPA REGION 9 ADMINISTRATOR (from USEPA, Region 9 website)

Mr. Nastri has been active on a variety of environmental issues over the last fifteen years and has held a number of positions within the environmental engineering and management field. He has worked on air, water, soil, and hazardous waste issues and has extensive experience in dealing with community groups. He has directed environmental negotiations with local, state, and federal agencies, and participated in regulatory and legislative monitoring.

Prior to his appointment as Regional Administrator in October 2001, Mr. Nastri was President of Environmental Mediation Inc., an environmental consulting firm, which he founded in 1995 in Newport Beach, California. He had previously directed the California office of The Jefferson Group, a government and public affairs firm.

MORE ON DRINKING WATER SECURITY

EPA RELEASES FUNDING FOR WATER SECURITY GRANTS

On March 19, 2002, EPA Administrator Christie Whitman detailed a nearly \$90 million national effort to make drinking water and wastewater utilities as safe as possible as quickly as possible. In response to the attacks of September 11, 2001, Congress provided the funding to reduce the vulnerability of water utilities to terrorist attacks and to enhance their security and ability to respond to emergency situations. The grants are available to large drinking water systems that regularly serve 100,000 people or more to support vulnerability assessments, remediation planning and/or emergency plan development.

Two water systems in Hawaii qualified for this grant. EPA is working closely with states, tribes, and utility organizations to determine the best ways to meet small and medium drinking water and wastewater system needs. Another portion of these funds will support state water security coordination and planning activities. (From USEPA Headquarters Press Release, 03/29/2002, "EPA Releases Additional Information on Water Security Grants.")

The Safe Drinking Water Branch is in contact with EPA to investigate the chances of having training classes in Hawaii on vulnerability assessment for water systems. If you are interested in attending this training, please call or fax Bill Wong, Chief of the Safe Drinking Water Branch at (808) 586-4258.

WEBSITES RELATED TO THE SECURITY OF DRINKING WATER SUPPLIES:

EPA CIP Site: This site focuses on EPA's actions taken to safeguard the nation's drinking water supplies. Information on EPA's emergency response system, technical assistance and training opportunities, and frequently asked questions regarding drinking water security issues. <http://www.epa.gov/safewater/security/secfs.html>

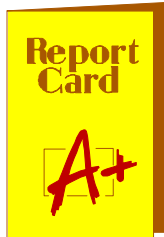
AWWA's Security Section: The American Water Works Association has compiled resources for water utility managers and operators with specific information relating to current security conditions. http://www.awwa.org/public_ep/index.html

WEF's Security Site: The Water Environment Federation has assembled a "one-stop" site for information on drinking water and wastewater critical infrastructure protection. <http://www.wef.org/publicinfo/WEFsecurity.jhtml>

RESULTS OF FEBRUARY WATER TREATMENT PLANT OPERATOR CERTIFICATION EXAM

February Water Treatment Plant Operator Certification Exam Results are In

The 1st 2002 Water Treatment Plant Operator (WTPO) certification exams were held in February on Oahu, Maui, Kauai and Hawaii. Twenty-one operators took the exam, and 20 passed for a phenomenal passing rate of 95%. This was the highest passing rate ever! The breakdown by grade is as follows:



Grade	Examinees	Passed	Passing Rate
1	3	3	100%
2	18	17	94%
3	0	0	N/A
4	0	0	N/A
	21	20	95%

Oahu operators comprised the largest group sitting for the exam:

Island	Examinees	Passed	Passing Rate
Oahu	13	12	92%
Maui	3	3	100%
Kauai	3	3	100%
Big Island	2	2	100%
	21	20	95%

Excellent!

Congratulations to those operators who passed the exam! Operators taking the WTPO exams over the last six years (1997 - 2002) have achieved average passing rates ranging from 86% to 95%. This is a vast improvement over the average passing rate of 47% for the first four years of the exams (1993 - 1996).

If you passed one of the early Distribution System Operator (DSO) certification exams given in 2000 with the one-week training, you must apply for certification by **December 31, 2002**. Operators applying after this date will have to retake the exam.

Please make note of upcoming **2002 / 2003 operator certification exam dates:**

WTPO certification exam	7/30/02	applications due by 4/30/02
DSO certification exam	10/29/02	applications due by 7/29/02
WTPO certification exam	1/28/03	applications due by 10/28/02

Please call Ann Takushi Zane or Nora Macariola-See at 586-4258 if you would like a copy of the application form and exam registration form for either WTPO or DSO certification. You can also download these forms from the DOH SDWB website at: <http://www.hawaii.gov/health/eh/sdwb>.

Reminder: If your WTPO certification expires on 10/31/02, it must be renewed by 10/17/02. Renewal forms must be received by this date so that the Board of Certification can review any new courses for CEU approval. You should have received your renewal form in the mail during the first week of April, with a listing of your CEUs tabulated to date.

“WHAT IS A SANITARY SURVEY? A LOOK AT THE ELEMENTS OF A SURVEY”

Sanitary surveys will identify **sanitary risks** that might interrupt the “multiple barrier” approach to drinking water protection. The multiple barrier protection system is intended to provide several barriers of protection and may include: watershed/wellhead protection/source water protection, treatment, disinfection, distribution system. The sanitary survey would determine if any of these barriers has failed. A sanitary survey will generally include eight (8) elements: (1) Source, (2) Water Treatment, (3) Distribution System, (4) Finished Water Storage, (5) Pumps/Pump Facilities and Controls, (6) Monitoring/ Reporting/Data Verification, (7) Water System/ Management/Operations, and (8) Operator Compliance with State Requirements.

In this issue of “The Water Spot 2002,” we continue our series on the elements of a sanitary survey by looking at the third element, drinking water distribution system.

SANITARY SURVEY ELEMENT No. 3 -- DRINKING WATER DISTRIBUTION SYSTEM

The following is from the EPA/STATE Joint Guidance on Sanitary Surveys; Model Qualifications Criteria Program - Need-to-Know Criteria to Conduct a Sanitary Survey; and Learner’s Guide - How to Conduct a Sanitary Survey for Small Water Systems.

The distribution system’s piping and appurtenances may contribute to the deterioration of water quality. Also, the construction and repair techniques utilized may expose personnel and customers to a wide variety of hazards. The sanitary survey inspector should evaluate the operation, maintenance, and management practices for the distribution system for sanitary risks to assess/determine the safety, adequacy, and reliability of the system. The sanitary survey for the distribution system should include:

- (1) a review of the major components of a water distribution system including pipes, valves, meters, meter vaults, fire hydrants, thrust blocks, and anchors.
- (2) identifying data collection requirements for evaluating sanitary risks to the water distribution system.
- (3) describing how the type of material and selection standards of water distribution system components can impact system reliability and/or water quality.
- (4) identifying standards used to select water distribution system components, and how these standards protect public health and the reliability of the distribution system.
- (5) identifying factors that contribute to the reduction in water quality in a distribution system.
- (6) identifying information that should be included on water distribution system blueprints.
- (7) describing the proper monitoring of a water distribution system.
- (8) identifying operation and maintenance tasks necessary to maintain the integrity of the water distribution system, such as flushing, etc.
- (9) describing the safety practices that should be in place to protect the operator and public during distribution system operations, construction, and repair.
- (10) describing the proper methods, based on AWWA standards, for disinfecting new and repaired water distribution system lines and appurtenances.
- (11) identifying design & operational constraints with a negative impact on the water quality in a distribution system.
- (12) identifying construction techniques that can be a positive influence on distribution systems integrity.

Many failures to meet the requirements of the drinking water standards are directly related to the use of poor operating and maintenance procedures for distribution systems or to the presence of sanitary defects in the system. Some of the causes that contribute to poor water quality are:

- Insufficient treatment at the point of production
- Improperly protected distribution system storage
- Unsatisfactory main construction
- Improper constructed, maintained, or located blow-off, vacuum, and air relief valves
- Cross-connections
- Inadequate main disinfection
- Close proximity of sewers to the water mains
- Negative pressures in the distribution system

COMPONENTS OF THE DISTRIBUTION SYSTEM

Main lines – typically made of gray cast iron, ductile cast iron, steel, polyvinyl chloride, high density polyethylene.

Service lines – typically made of galvanized steel, copper, high density polyethylene, polyvinyl chloride, and lead.

Service and service connections – water meters are used in distribution systems at the introduction to a pressure zone and at the customer's connection. These meters may assist the water system in determining the amount of water used as well as unaccounted-for-water (as an aid in leak identification.)

In-line valves – the two most common in-line valves used in a distribution system are gate and butterfly valves. They are used to isolate portions of the distribution system during repairs.

Blow offs – are generally gate, butterfly, or globe valves that are installed at the end of dead-lines or in other locations. They are used in the flushing of the distribution system.

Air relief, air release, and combination air vacuum valves – are used for removing air that accumulates in the distribution system as well as to relieve any vacuum in the distribution system caused by line flushing, line breaks, or other high-flow conditions. When air accumulates in the system it can cause system pressure and flow variations. Vacuums may contribute to the pipe joint failure and the intrusion of contaminated groundwater into the system.

Pressure reducing valves – are globe valves that are installed in the system in to reduce or maintain the pressure in a specific zone of the distribution system.

Fire hydrants – In addition to fire suppression, fire hydrants may be used as a means of obtaining water from the system for construction and sewer line flushing as well as for providing a means of flushing the distribution system piping.



WHEN CONDUCTING A SANITARY SURVEY CONSIDER THE FOLLOWING:

Piping Materials

1. What kind of piping materials are in the distribution system?

Material Standards

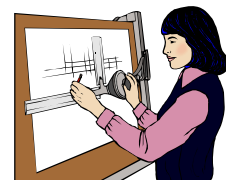
1. What standards are used to select materials?
2. Are all materials used in the system manufactured according to AWWA standards?
3. Are all materials ANSI/NSF certified?
4. Is there a set of construction standards used by the utility? Does the System have its own construction standards, or have they adopted some from another agency? Do the construction standards meet the state requirements?
5. Are in-house staff and contractors required to use the same standards?
6. Are standards actually followed?

Water Quality

1. Is there any point in the system where pressure drops below 20 psi during peak demand or fire response?
2. If the pressure gauges are in a vault, can the operator observe pressure without entering the vault?
3. If there is a vault, is there a sign identifying it as a confined space? Does the operator have and use gas monitoring equipment and follow a confined space entry procedure?
4. If there are pressure zones controlled by automatic Pressure Reducing Valves, do the valves work properly?
5. If there are Pressure Reducing Valves, can the operator describe how they work and what they do?
6. If a Pressure Reducing Valve should fail, how would the utility be notified?
7. Is the system designed with dead-end lines?
8. Are there several low places in the system piping?
9. Do reservoirs turn over at least once every 14 days?
10. If there is a model, has it been compared to actual conditions? When was it updated last? Does it show any low pressure conditions?
11. Are the backflow prevention devices installed and tested at each commercial site where backflow could cause a reduction in water quality?
12. Does the discharge piping on all air valves extend a proper distance above ground and flood level?
13. Are distribution system problem areas identified on a system map?

Maps/Drawings & Planning

1. Are as-built drawings available?
2. How often are maps updated?
3. Do maps and as-built drawings contain the proper information?
4. Is there a master plan showing proposed construction and/or replacement of lines?



Distribution System Monitoring

1. Are chloride residuals tested in the system? At what frequency?
2. What is the residual chlorine level prior to the first customer? Is a trace of residual maintained at all points in the system? Are there adequate sample sites, and do they provide a representative sample of system conditions?
3. Is the correct reagent used for testing free residual?
4. Are they waiting the correct length of time before reading the free and combined residuals?
5. When was the last time the testing instrument was calibrated?
6. Is system pressure monitored at high and low elevations? Is this information recorded?
7. Are customer water quality complaints recorded?
8. What is the percentage of unaccounted-for-water?

System Operation and Maintenance

1. What is the frequency of main breaks?
2. Are the breaks primarily in one area? What type of pipe is involved?
3. Is there a line flushing program? Is a systematic unidirectional process used? Are records maintained of frequency, location, and amount of time required?
4. Is there a valve inspection and exercising program and are records maintained?
5. Is there a fire hydrant flushing program, separate from the line flushing program?
6. Does the utility have a backhoe? If not, how long would it take a contractor or rental company to provide one if needed? Can this equipment be obtained late at night?
7. How often are pressure readings taken in the distribution system? Are they representative of the system?
8. Are adequate repair materials on hand?
9. Are there written procedures for isolation of portions of the system and for making main repairs?
10. Does the utility maintain an updated list of critical customers?
11. Does the utility have a corrosion control program?



Safety Considerations

1. Does the utility use proper safety procedures for handling line disinfection chemicals?
2. Is there a trained “Competent Person” on staff? Does the “Competent Person” evaluate soil and work site hazards at each excavation?
3. Are excavation hazard evaluations documented? Does the utility have and use cave-in protection equipment?
4. Does the utility have and do they use proper traffic control equipment? Have all field workers been trained in the use of traffic control equipment?
5. Are all employees who operate industrial trucks required to have a Commercial Drivers License?



Disinfection Procedures

1. What disinfection procedure is used for new lines?
2. Does this procedure meet the AWWA C-601 Standard?
3. What disinfection procedure is used during repairs of broken lines?

Design & Operational Constraints on Water Quality

1. Are all water lines looped, or are there dead ends?
2. Are there any bottlenecks (a small diameter pipe connected on both ends by large diameter pipe) in the piping system?
3. Are blow offs connected to sanitary or storm sewers; or do they exit below flood level in ditches or streams?

Design & Operational Constraints on Reliability

1. Is the system interconnected with any other water systems?
2. Does the system have adequate valves?

Construction Considerations

1. Are concrete thrust blocks or restraining fittings used at all elbows, tees, and dead ends?
2. Are proper bedding and backfill procedures used with new or repaired pipes?
3. Are pressure and/or leak tests performed on all new pipe construction?
4. Are cast iron and steel pipe protected from external corrosion?

***** TIME IS RUNNING OUT *****
LAST CHANCE TO ATTEND THE SPRING 2002 TRAINING COURSES

**Public Water Systems Operator &
Management Training Courses**

**Spring 2002: Statewide, one-day workshops
for professional development and CEU credit**

Sponsored by: Hawaii Department of Health, Safe Drinking Water Branch,
and the U.S. Environmental Protection Agency
Presented by: Rural Community Assistance Corporation

Public drinking water system operations, maintenance, supervisory, and managerial personnel are invited to attend and participate in the one-day professional development workshops scheduled for locations around the state.

Three different workshops are being offered around the state from **February through June 2002** for Continuing Education Credits (CEUs) for all water system personnel. Each workshop is designed to provide five training contact hours. Note: These workshop topics will change after June 2002.

One workshop primarily for supervisory & managerial staff and other interested personnel will focus on **TECHNICAL, MANAGERIAL AND FINANCIAL CAPACITY AND THE WELLHEAD PROTECTION PROGRAM**. The emphasis will be placed upon awareness of the Capacity Demonstration and Evaluation procedures and improving TMF capacity in your water system. The Wellhead Protection Program will also be highlighted.



Where/when: TMF Capacity and Wellhead Protection Workshop

Keahole-Kona, NELHA Conference Rm. - June 4, 2002 *

A second workshop for water treatment operators and others interested in learning about water treatment will focus on **WATER TREATMENT PROCESS MONITORING AND CONTROL**. The emphasis will be on effective process monitoring, control and treatment optimization. Automated water treatment monitoring and control options will to be highlighted.



Where/when: Treatment Process Monitoring and Control

Kaunakakai, Kulana 'Oiwī - June 3, 2002 *

Pearl City, DOH Laboratory Facility - June 7, 2002 *

A third workshop for distribution system operators, treatment operators and other interested personnel will focus on **MONITORING REQUIREMENTS OF THE SAFE DRINKING WATER ACT**. The emphasis will be on awareness of required monitoring, sampling frequency, analytical and reporting requirements. Special sampling such as repeat sampling, Phase II & V sampling, and lead & copper sampling will be included.

Where/when: MONITORING REQUIREMENTS OF THE S.D.W.A.

Kaunakakai, Kulana 'Oiwī - June 10, 2002 *

Pearl City, DOH Laboratory Facility - June 13, 2002 *

Keahole-Kona, NELHA Conference Rm.- June 18, 2002 *

*** Time: 9:30 a.m. to 3:30 p.m. - all workshops/locations.**



The number of participants in some locations may be limited by classroom capacity. First preference to attend will be given according to earliest date of registration, once class capacity is reached registration will be closed.

There is a required, non-refundable registration fee** of \$20.00 for each person to attend each workshop. NOTE: A bank cashier's check or postal money order made payable to the "State of Hawaii", accompanying the below registration form, are the only acceptable methods of payment. Requisitions, purchase orders, personal checks or cash will not be accepted. The deadline for workshop registration is a postmark of not less than ten days before the scheduled date of the particular workshop .

For more information contact Glenn Johansen at (808) 896-3886, or send e-mail to gjohanse@rcac.org. Completed registration must be mailed with fee payment. *Hawaii State agencies: call for registration fee invoice instructions.*

Certified Operators: Don't miss the opportunity to earn the CEUs needed before the deadline to reapply for certification sneaks up on you. Register now!

This registration form may be duplicated.

RCAC WORKSHOP REGISTRATION FORM

Desired workshop title: _____

Workshop location and date: _____

Name: _____ Work phone: _____

Organization: _____

Public Water System ID Number: _____ and Name (if different from above)

P.W.S. Name: _____

Mailing address: _____
(Work)

Fax number: _____ E-mail address: _____

Check here: [] \$20.00 registration fee** payable to "State of Hawaii" enclosed.
(per person, per workshop)

Bank cashier's check or postal money order number: _____ (no personal checks)

Mail this form with fee payment to: **RCAC Workshop Registration**
(at least ten days in advance) **234 Waianuenue Ave., Suite 107**
Hilo, Hawaii 96720

The Water Spot 2002 is published by the Safe Drinking Water Branch, Environmental Management Division of the Hawai'i State Department of Health and is distributed to water purveyors, water system operators, staff, consultants, and other interested parties.

*The Water Spot 2002 may also be viewed on the Safe Drinking Water Branch's web site at:
<http://www.hawaii.gov/health/eh/sdwb>*

Please send your
suggestions, ideas,
questions or
comments to:

THE WATER SPOT 2002
Safe Drinking Water Branch
State Department of Health
919 Ala Moana Blvd., Room 308
Honolulu, Hawaii 96814

OR

Fax us at (808) 586-4370, Attn: "THE WATER SPOT 2002"

SDWB WEB SITE:

<http://www.hawaii.gov/health/eh/sdwb>

HISWAP WEB SITE:

Currently under Construction



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